



PEPS

# EMPLOYEE BULLETIN

STAT

EB No.

5 June 1979

## ENERGY CONSERVATION

1. The President has directed that Executive departments and agencies reduce energy consumption by 5 percent for the twelve-month period beginning 1 April 1979 compared with the preceding twelve months. Specific actions to be taken are:

a. Set thermostats in all Federally operated buildings, except where required for health and safety or special purposes, at not more than 65 degrees during working hours and 55 degrees during nonworking hours for the heating season and not lower than 80 degrees for the cooling season.

b. Reduce use of automotive fuels by 10 percent.

2. Each agency must take additional steps to achieve the full reduction goal. Efforts are being made within the Agency to identify areas where energy usage can be reduced without an adverse impact on the Agency's mission.

3. Maintaining a uniform temperature in the building is a difficult job; temperature and humidity levels differ from one area to another. In areas considered uncomfortably warm, employees should use discretion and may wear clothing more comfortably suited to particular office conditions (i.e., no coats or ties for men).

4. Management of energy usage requires the support of all employees if the Agency is to meet the President's goal. Energy conservation pamphlets have been placed in Credit Union offices. Continued cooperation by participating in carpools and reducing energy usage in both home and work environments will make a significant contribution in meeting our nation's energy objectives.

DISTRIBUTION: ALL EMPLOYEES (1-6)



P&S

# EMPLOYEE BULLETIN

STAT

EB No.

2 March 1979

## ENERGY CONSERVATION

1. Responding to the world cutback in oil production resulting from the Iranian situation, the President has directed additional conservation measures to reduce energy use by the Federal Government.

2. Thermostats in all Federally owned and operated buildings are to be set at 65° F during the day and 55° F at night. The General Services Administration has already reset thermostats in the Headquarters Building. Some variations in temperature may be experienced because of the large and complex systems within Headquarters Building. Problems should be directed to the Headquarters Engineering Branch on extension  STA

3. In addition, the President has directed reduction of electrical use, particularly lighting; reduction of petroleum use by combining and reducing the number of vehicular trips; and reduction of research and experimental activity requiring high energy usage.

4. As Agency employees we can contribute individually to this effort by making use of carpools and mass transit. We should turn out unnecessary lighting wherever possible, wear warm clothing to offset lowered temperatures, and be alert to energy saving suggestions in home and office areas.

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Appendix A

Heat Loss Calculations

Each window on 3rd, 4th, 5th, & 6th floors

Heat Loss by Conduction

Dimensions 2.7' x 7'5'

Glass Area 20.6 ft<sup>2</sup>/window

Heating Degree Days - Washington DC = 4,200

Langley, Va = 4,500

= 4,500 x 24 hrs x 20.6 x 1.13

= 2,514,024 btu's/window/heating season

Heat Loss Through Infiltration

Along window edge length (crack) at assumed average winter  
wind velocity of 5 mph

15' crack/window/

infiltration = 8 ft<sup>3</sup>/hour/linear foot

Total infiltration equals 120 ft<sup>3</sup>/hour, or  
518,000 ft<sup>3</sup>/heating season

Heat Loss = 518,000 x 25°F (average ΔT)

x 0.018 btu/ft<sup>3</sup>/°F

= 233,100 btu's/window/heating season

Total heat loss per window = 2,750,000 btu's

## SUGGESTION

### I. The Problem

Energy conservation is a key national priority, yet the CIA headquarters building is a heat sieve designed and built in the era of cheap and inexhaustible energy. On the 1st, 3rd, 4th, 5th, and 6th floors there are nearly 3,500 windows, each one of which loses about 2.75 million btu's per heating season, requiring the burning of 25-28 gallons of heating oil per window per heating season. About 80 percent of this heat loss is pure waste. At today's oil prices of roughly \$1-/gallon this amounts to a cost of \$20/window/year or \$70,000. Since heating oil prices promise to double in the next 2-3 years, savings would amount to about \$150,000 per year in the mid 1980s. Summer air conditioning savings would also be sizeable, perhaps \$50,000 to \$75,000.

### II. The Solution

Because of the large number of identical windows, it will be possible to mass produce styrofoam insulated shutters to fit on the inside of each of these windows. These shutters would not interfere with the operation of the windows or illumination during working hours, nor would they intrude on available space within agency offices. Closing of these shutters could be made a portion of the normal daily security check, thus assuring a 90 percent reduction in heat losses during the 75 percent of the week that most offices are normally unoccupied. Since heat losses are much higher at night than during the day, in part because of radiation losses, overall savings would average 80 percent or so.

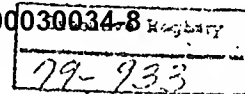
### III. The Shutters

These proposed shutters would hinge on each side of the windows on the inside and open against the concrete columns alongside each window, much like french or double doors. Shutter construction would probably call for a styrofoam core bonded to fiberglass or plastic sheets (much like high quality ice chests are manufactured) with weather stripped closures. Design should aim at an "R" value of 8 to 10 per shutter, implying a core

thickness of about 1 1/2". Based on a competitive bid order of some 3,500 units, costs should run less than \$50- per unit. Installation costs should not exceed an additional \$50 per unit. A particularly cheap, but less esthetically pleasing solution could be obtained by using lift out styrofoam panels with magnetic catches that would seal on the window frames. This could probably be done for as little as \$10-\$20 per window, with a payback period of less than one heating season. These lift-out panels would also be useable on the 2nd and 7th floors.

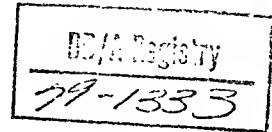
#### IV. The Payoff

With annual savings on heat alone of \$20-/window (probably \$30-\$40/window taking into account air conditioning savings and the probable rise in fuel costs during the interim) payback could be obtained in 3 years or less. Total annual savings would total at least \$100,000 next year in heating costs and more than \$150,000-/year during the 1980s. Other conservation investments could be made on the 2nd and the 7th floor where heat losses through the windows are greater even than on the other floors. Again, insulated shutters of some kind probably offer the best solution. Double glazing would be more expensive and would save only about 50 percent at best, compared to the 80 percent or so available from shutters. As for the cafeteria, which is an energy disgrace, no solution suggests itself. For your information, it probably takes more energy to heat this area than it does for the entire rest of the headquarters complex.



THE WHITE HOUSE  
WASHINGTON

April 10, 1979



MEMORANDUM FOR THE HEADS OF  
EXECUTIVE DEPARTMENTS AND AGENCIES

SUBJECT: Required 5% Reduction in Agency  
Energy Use

The U.S. has taken the lead to get the member nations of the International Energy Agency to reduce petroleum consumption. Our goal, as part of this commitment, is to reduce oil imports by a level equal and up to 5% of projected domestic consumption. This goal must be met to help reduce the upward pressure on world oil prices.

The Federal Government will do its part. I am directing that Executive departments and agencies reduce energy consumption by 5% for the twelve-month period beginning April 1, 1979, as compared with the preceding twelve months.

In achieving this reduction, the following specific actions are to be taken:

- o Set thermostats in all Federally-operated buildings, except where required for health and safety or special purposes, at not more than 65 degrees during working hours and 55 degrees during non-working hours for the heating season and at not lower than 80 degrees for the cooling season.
- o Reduce use of all automotive fuels by 10%.

Each agency will have to take additional steps to achieve the full 5% reduction goal. These initiatives should be selected so as to avoid adverse programmatic impacts. As directed in my February 2, 1979 memorandum, for example, heads of agencies may reduce lighting and other electrical use throughout agency activities and reduce petroleum use by eliminating unnecessary activities and vehicle trips. Credit will be given for fuel switching from oil to gas or coal.

Within 30 days, please submit to the Secretary of Energy a plan for achieving the reduction in energy use. Each agency that now reports quarterly energy consumption to the Secretary of Energy should identify in the quarterly status reports the actual energy savings attributable to this effort.

I have directed the Secretary of Energy, in consultation with the Office of Management and Budget, to monitor compliance with the provisions of this directive. They will periodically report to me on accomplishments, problems with respect to adverse impacts on agency missions, and further actions which may be required.

*Jimmy Carter*

27 MAR 1979

MEMORANDUM FOR: Deputy Director for Administration

FROM: James H. McDonald  
Director of Logistics

SUBJECT: Energy Conservation

1. Reference your note suggesting we set up a management advisory group (MAG) or employee committee on energy matters. I agree that more needs to be done to promote energy efficiency if we are going to deal effectively with a worsening energy crisis.

2. Over the past years, the Office of Logistics (OL) has functioned as the office of primary responsibility on energy matters and has developed a considerable amount of experience and expertise in this area. Rather than set up a separate MAG or committee, I would suggest that OL continue in this role and that we work more closely with the existing MAG's in developing new programs and promoting new habits. Our Plans and Programs Staff could meet with the various MAG's early on and brief them on existing programs, federal energy standards and reporting requirements, and employee-oriented programs such as car pools, shuttle bus services, and employee awareness projects.

3. Some ideas which should be explored in depth given a deepening energy crisis are:

a. Support the Council of Government in programs to charge significant parking fees for employee parking at all Agency locations, thus encouraging car pools and van pools.

b. Increase of special incentives for car pools to include preferential parking, adjusted work schedules, etc.

OL 9 1192

*See OL 9-1006*

SUBJECT: Energy Conservation

c. Flexible work hours; perhaps four-day week, ten-hour days in some operations.

d. Reduction of courier runs per day. Use of scheduled shuttle service by couriers.

e. Sanction the use of shuttle service by employees from fringe parking areas.

f. Expansion of public transportation services.

g. Restrict authorization to use private vehicles between Agency buildings serviced by shuttle buses.

4. If you agree, we are prepared to commence working on these ideas and, at the same time, concentrate on the development of others. Incidentally, all federal agencies are required to submit their annual reports on energy conservation to the Department of Energy in July.

[Redacted]

STAT

*for* James H. McDonald

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STAT OL/P&PS/[Redacted] (27 March 1979)

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EB No. 

2 March 1979

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